# Round 2 1NC Fr

## FW:

#### I negate the resolution; The appropriation of outer space by private entities is unjust.

#### My value is Morality

#### The standard is maximizing expected wellbeing.

#### Prefer:

#### 1] States must use util – they seek practical benefits for constituents and aren’t unified agents so they don’t have intentions.

#### 2] Death is bad and outweighs – a) agents can’t act if they fear for their bodily security which constrains every ethical theory, b) it destroys the subject itself – kills any ability to achieve value in ethics since life is a prerequisite which means it’s a side constraint since we can’t reach the end goal of ethics without life

#### Pleasure and pain are the only things intrinsically valuable.

Moen 16 [Ole Martin Moen, Research Fellow in Philosophy at University of Oslo “An Argument for Hedonism” Journal of Value Inquiry (Springer), 50 (2) 2016: 267–281] SJDI

Let us start by observing, empirically, that a widely shared judgment about intrinsic value and disvalue is that pleasure is intrinsically valuable and pain is intrinsically disvaluable. On virtually any proposed list of intrinsic values and disvalues (we will look at some of them below), pleasure is included among the intrinsic values and pain among the intrinsic disvalues. This inclusion makes intuitive sense, moreover, for there is something undeniably good about the way pleasure feels and something undeniably bad about the way pain feels, and neither the goodness of pleasure nor the badness of pain seems to be exhausted by the further effects that these experiences might have. “Pleasure” and “pain” are here understood inclusively, as encompassing anything hedonically positive and anything hedonically negative.2 The special value statuses of pleasure and pain are manifested in how we treat these experiences in our everyday reasoning about values. If you tell me that you are heading for the convenience store, I might ask: “What for?” This is a reasonable question, for when you go to the convenience store you usually do so, not merely for the sake of going to the convenience store, but for the sake of achieving something further that you deem to be valuable. You might answer, for example: “To buy soda.” This answer makes sense, for soda is a nice thing and you can get it at the convenience store. I might further inquire, however: “What is buying the soda good for?” This further question can also be a reasonable one, for it need not be obvious why you want the soda. You might answer: “Well, I want it for the pleasure of drinking it.” If I then proceed by asking “But what is the pleasure of drinking the soda good for?” the discussion is likely to reach an awkward end. The reason is that the pleasure is not good for anything further; it is simply that for which going to the convenience store and buying the soda is good.3 As Aristotle observes: “We never ask [a man] what his end is in being pleased, because we assume that pleasure is choice worthy in itself.”4 Presumably, a similar story can be told in the case of pains, for if someone says “This is painful!” we never respond by asking: “And why is that a problem?” We take for granted that if something is painful, we have a sufficient explanation of why it is bad. If we are onto something in our everyday reasoning about values, it seems that pleasure and pain are both places where we reach the end of the line in matters of value.

#### Extinction first –

#### 1 – Forecloses future improvement – we can never improve society because our impact is irreversible

#### 2 – Turns suffering – mass death causes suffering because people can’t get access to resources and basic necessities

#### 3 – Moral obligation – allowing people to die is unethical and should be prevented because it creates ethics towards other people

#### 4 – Objectivity – body count is the most objective way to calculate impacts because comparing suffering is unethical

#### 5 – Moral uncertainty – if we’re unsure about which interpretation of the world is true – we ought to preserve the world to keep debating about it

# Offs

## 1 - Innovation

#### Space Commercialization drives Tech Innovation in the Status Quo – it’s the guiding force.

Hampson 17 Joshua Hampson 1-25-2017 “The Future of Space Commercialization” <https://republicans-science.house.gov/sites/republicans.science.house.gov/files/documents/TheFutureofSpaceCommercializationFinal.pdf> (Security Studies Fellow at the Niskanen Center)//Elmer

The size of the space economy is far larger than many may think. In 2015 alone, the global market amounted to $323 billion. Commercial infrastructure and systems accounted for 76 percent of that 9 total, with satellite television the largest subsection at $95 billion. The global space launch market’s 10 11 share of that total came in at $6 billion dollars. It can be hard to disaggregate how space benefits 12 particular national economies, but in 2009 (the last available report), the Federal Aviation Administration (FAA) estimated that commercial space transportation and enabled industries generated $208.3 billion in economic activity in the United States alone. Space is not just about 13 satellite television and global transportation; while not commercial, GPS satellites also underpin personal navigation, such as smartphone GPS use, and timing data used for Internet coordination.14 Without that data, there could be problems for a range of Internet and cloud-based services.15 There is also room for growth. The FAA has noted that while the commercial launch sector has not grown dramatically in the last decade, there are indications that there is latent demand. This 16 demand may catalyze an increase in launches and growth of the wider space economy in the next decade. The Satellite Industry Association’s 2015 report highlighted that their section of the space economy outgrew both the American and global economies. The FAA anticipates that growth to 17 continue, with expectations that small payload launch will be a particular industry driver.18 In the future, emerging space industries may contribute even more the American economy. Space tourism and resource recovery—e.g., mining on planets, moons , and asteroids—in particular may become large parts of that industry. Of course, their viability rests on a range of factors, including costs, future regulation, international problems, and assumptions about technological development. However, there is increasing optimism in these areas of economic production. But the space economy is not just about what happens in orbit, or how that alters life on the ground. The growth of this economy can also contribute to new innovations across all walks of life. Technological Innovation Innovation is generally hard to predict; some new technologies seem to come out of nowhere and others only take off when paired with a new application. It is difficult to predict the future, but it is reasonable to expect that a growing space economy would open opportunities for technological and organizational innovation. In terms of technology, the difficult environment of outer space helps incentivize progress along the margins. Because each object launched into orbit costs a significant amount of money—at the moment between $27,000 and $43,000 per pound, though that will likely drop in the future —each 19 reduction in payload size saves money or means more can be launched. At the same time, the ability to fit more capability into a smaller satellite opens outer space to actors that previously were priced out of the market. This is one of the reasons why small, affordable satellites are increasingly pursued by companies or organizations that cannot afford to launch larger traditional satellites. These small 20 satellites also provide non-traditional launchers, such as engineering students or prototypers, the opportunity to learn about satellite production and test new technologies before working on a full-sized satellite. That expansion of developers, experimenters, and testers cannot but help increase innovation opportunities. Technological developments from outer space have been applied to terrestrial life since the earliest days of space exploration. The National Aeronautics and Space Administration (NASA) maintains a website that lists technologies that have spun off from such research projects. Lightweight 21 nanotubes, useful in protecting astronauts during space exploration, are now being tested for applications in emergency response gear and electrical insulation. The need for certainty about the resiliency of materials used in space led to the development of an analytics tool useful across a range of industries. Temper foam, the material used in memory-foam pillows, was developed for NASA for seat covers. As more companies pursue their own space goals, more innovations will likely come from the commercial sector. Outer space is not just a catalyst for technological development. Satellite constellations and their unique line-of-sight vantage point can provide new perspectives to old industries. Deploying satellites into low-Earth orbit, as Facebook wants to do, can connect large, previously-unreached swathes of 22 humanity to the Internet. Remote sensing technology could change how whole industries operate, such as crop monitoring, herd management, crisis response, and land evaluation, among others. 23 While satellites cannot provide all essential information for some of these industries, they can fill in some useful gaps and work as part of a wider system of tools. Space infrastructure, in helping to change how people connect and perceive Earth, could help spark innovations on the ground as well. These innovations, changes to global networks, and new opportunities could lead to wider economic growth.

#### Strong Innovation solves existential threats.

Matthews 18 Dylan Matthews 10-26-2018 “How to help people millions of years from now” <https://www.vox.com/future-perfect/2018/10/26/18023366/far-future-effective-altruism-existential-risk-doing-good> (Co-founder of Vox, citing Nick Beckstead @ Rutgers University)//Re-cut by Elmer

If you care about improving human lives, you should overwhelmingly care about those quadrillions of lives rather than the comparatively small number of people alive today. The 7.6 billion people now living, after all, amount to less than 0.003 percent of the population that will live in the future. It’s reasonable to suggest that those quadrillions of future people have, accordingly, hundreds of thousands of times more moral weight than those of us living here today do. That’s the basic argument behind Nick Beckstead’s 2013 Rutgers philosophy dissertation, “On the overwhelming importance of shaping the far future.” It’s a glorious mindfuck of a thesis, not least because Beckstead shows very convincingly that this is a conclusion any plausible moral view would reach. It’s not just something that weird utilitarians have to deal with. And Beckstead, to his considerable credit, walks the walk on this. He works at the Open Philanthropy Project on grants relating to the far future and runs a charitable fund for donors who want to prioritize the far future. And arguments from him and others have turned “long-termism” into a very vibrant, important strand of the effective altruism community. But what does prioritizing the far future even mean? The most literal thing it could mean is preventing human extinction, to ensure that the species persists as long as possible. For the long-term-focused effective altruists I know, that typically means identifying concrete threats to humanity’s continued existence — like unfriendly artificial intelligence, or a pandemic, or global warming/out of control geoengineering — and engaging in activities to prevent that specific eventuality. But in a set of slides he made in 2013, Beckstead makes a compelling case that while that’s certainly part of what caring about the far future entails, approaches that address specific threats to humanity (which he calls “targeted” approaches to the far future) have to complement “broad” approaches, where instead of trying to predict what’s going to kill us all, you just generally try to keep civilization running as best it can, so that it is, as a whole, well-equipped to deal with potential extinction events in the future, not just in 2030 or 2040 but in 3500 or 95000 or even 37 million. In other words, caring about the far future doesn’t mean just paying attention to low-probability risks of total annihilation; it also means acting on pressing needs now. For example: We’re going to be better prepared to prevent extinction from AI or a supervirus or global warming if society as a whole makes a lot of scientific progress. And a significant bottleneck there is that the vast majority of humanity doesn’t get high-enough-quality education to engage in scientific research, if they want to, which reduces the **odds that we have enough trained scientists to come up with the breakthroughs** we need as a civilization to survive and thrive. So maybe one of the best things we can do for the far future is to improve school systems — here and now — to harness the group economist Raj Chetty calls “lost Einsteins” (potential innovators who are thwarted by poverty and inequality in rich countries) and, more importantly, the hundreds of millions of kids in developing countries dealing with even worse education systems than those in depressed communities in the rich world. What if living ethically for the far future means living ethically now? Beckstead mentions some other broad, or very broad, ideas (these are all his descriptions): Help make computers faster so that people everywhere can work more efficiently Change intellectual property law so that technological innovation can happen more quickly Advocate for open borders so that people from poorly governed countries can move to better-governed countries and be more productive Meta-research: improve incentives and norms in academic work to better advance human knowledge Improve education Advocate for political party X to make future people have values more like political party X ”If you look at these areas (economic growth and technological progress, access to information, individual capability, social coordination, motives) a lot of everyday good works contribute,” Beckstead writes. “An implication of this is that a lot of everyday good works are good from a broad perspective, even though hardly anyone thinks explicitly in terms of far future standards.” Look at those examples again: It’s just a list of what normal altruistically motivated people, not effective altruism folks, generally do. Charities in the US love talking about the lost opportunities for innovation that poverty creates. Lots of smart people who want to make a difference become scientists, or try to work as teachers or on improving education policy, and lord knows there are plenty of people who become political party operatives out of a conviction that the moral consequences of the party’s platform are good. All of which is to say: Maybe effective altruists aren’t that special, or at least maybe we don’t have access to that many specific and weird conclusions about how best to help the world. If the far future is what matters, and generally trying to make the world work better is among the best ways to help the far future, then effective altruism just becomes plain ol’ do-goodery.

## 2 - US

#### Privatized Space Race favors American Companies that ensure space dominance – shift away endangers US lead – a loss allows for Chinese Dominance.

Autry and Kwast 19 Greg Autry and Steve Kwast 8-22-2019 "America Is Losing the Second Space Race to China" (Greg Autry, a clinical professor of space leadership, policy, and business at Arizona State University’s Thunderbird School of Global Management, and Steve Kwast)//Elmer

America Is Losing the Second Space Race to China The private sector can give the United States a much-needed rocket boost. The current U.S. space defense strategy is inadequate and on a path to failure. President Donald Trump’s vision for a Space Force is big enough. As he said on June 18, “It is not enough to merely have an American presence in space. We must have American dominance in space.” But the Air Force is not matching this vision. Instead, the leadership is currently focused on incremental improvements to existing equipment and organizational structures. Dominating the vast and dynamic environment of space will require revolutionary capabilities and resources far deeper than traditional Department of Defense thinking can fund, manage, or even conceive of. Success depends on a much more active partnership with the commercial space industry— and its disruptive capabilities. U.S. military space planners are preparing to repeat a conflict they imagined back in the 1980s, which never actually occurred, against a vanished Soviet empire. Meanwhile, China is executing a winning strategy in the world of today. It is burning hard toward domination of the future space markets that will define the next century. They are planning infrastructure in space that will control 21st-century telecommunications, energy, transportation, and manufacturing. In doing so, they will acquire trillion-dollar revenues as well as the deep capabilities that come from continuous operational experience in space. This will deliver space dominance and global hegemony to China’s authoritarian rulers. Despite the fact that many in the policy and intelligence communities understand exactly what China is doing and have been trying to alert leadership, Air Force leadership has convinced the White House to fund only a slightly better satellite command with the same leadership, while sticking a new label onto their outmoded thinking. A U.S. Space Force or Corps with a satellite command will never fulfill Trump’s call to dominate space. Air Force leadership is demonstrating the same hubris that Gen. George Custer used in convincing Congress, over President Ulysses S. Grant’s better experience intuition, that he could overtake the Black Hills with repeating rifles and artillery. That strategy of technological overconfidence inflamed conflict rather than subduing it, and the 7th Cavalry were wiped out at the Battle of the Little Bighorn. The West was actually won by the settlers, ranchers, miners, and railroad barons who were able to convert the wealth of the territory itself into the means of holding it. They laid the groundwork that made the 20th century the American Century and delivered freedom to millions of people in Europe and Asia. Of course, they also trampled the indigenous people of the American West in their wake—but empty space comes with no such bloody cost. The very emptiness and wealth of this new, if not quite final, frontier, however, means that competition for resources and strategic locations in cislunar space (between the Earth and moon) will be intense over the next two decades. The outcome of this competition will determine the fate of humanity in the next century. China’s impending dominance will neutralize U.S. geopolitical power by allowing Beijing to control global information flows from the high ground of space. Imagine a school in Bolivia or a farmer in Kenya choosing between paying for a U.S. satellite internet or image provider or receiving those services for free as a “gift of the Chinese people.” It will be of little concern to global consumers that the news they receive is slanted or that searches for “free speech” link to articles about corruption in Western democracies. Nor will they care if concentration camps in Tibet and the Uighur areas of western China are obscured, or if U.S. military action is presented as tyranny and Chinese expansion is described as peacekeeping or liberation. China’s aggressive investment in space solar power will allow it to provide cheap, clean power to the world, displacing U.S. energy firms while placing a second yoke around the developing world. Significantly, such orbital power stations have dual use potential and, if properly designed, could serve as powerful offensive weapons platforms. China’s first step in this process is to conquer the growing small space launch market. Beijing is providing nominally commercial firms with government-manufactured, mobile intercontinental ballistic missiles they can use to dump launch services on the market below cost. These start-ups are already undercutting U.S. pricing by 80 percent. Based on its previous success in using dumping to take out U.S. developed industries such as solar power modules and drones, China will quickly move upstream to attack the leading U.S. launch providers and secure a global commercial monopoly. Owning the launch market will give them an unsurmountable advantage against U.S. competitors in satellite internet, imaging, and power. The United States can still build a strategy to win. At this moment, it holds the competitive advantage in every critical space technology and has the finest set of commercial space firms in the world. It has pockets of innovative military thinkers within groups like the Defense Innovation Unit, under Mike Griffin, the Pentagon’s top research and development official. If the United States simply protects the intellectual property its creative minds unleash and defend its truly free markets from strategic mercantilist attack, it will not lose this new space race. The United States has done this before. It beat Germany to the nuclear bomb, it beat the Soviet Union to the nuclear triad, and it won the first space race. None of those victories was achieved by embracing the existing bureaucracy. Each of them depended on the president of the day following the only proven path to victory in a technological domain: establish a small team with a positively disruptive mindset and empower that team to investigate a wide range of new concepts, work with emerging technologies, and test innovative strategies. Today that means giving a dedicated Space Force the freedom to easily partner with commercial firms and leverage the private capital in building sustainable infrastructure that actually reduces the likelihood of conflict while securing a better economic future for the nation and the world.

#### Public sector space growth doesn’t allow for what’s needed to maintain U.S space dominance.

**Beames 21** [Charles Beames, Charles is currently the Executive Chairman of York Space Systems, a leader in commercial satellite design and manufacturing, as well as Chairman of the SmallSat Alliance. He is also a retired Air Force Colonel, having served 23 years in space & intelligence leadership positions around the world, 9-30-2021, Forbes, "It Is Time Our Government Stops Competing Against The Commercial Space Industry", <https://www.forbes.com/sites/charlesbeames/2021/09/30/it-is-time-our-government-stops-competing-against-the-commercial-space-industry/>]

With its fiery engines and impressive reusable rockets, SpaceX is the most visible example of the power of private enterprise in space. Every month, SpaceX makes another great leap further into the stars with another launch and often carrying satellites from other companies. Conservative estimates suggest that tens of thousands more are scheduled to be launched over the next five years to perform missions limited to the providence of major nations only a decade ago.

An outstanding example of an agency leveraging corporate R&D rather than spending its own capital is the Space Development Agency (SDA). When devising its strategy to build the nation’s next-generation missile tracking and communication systems, SDA mandated that the satellites hosting the specialized instruments onboard must be built on an off-the-shelf commodity bus already in rate production. SDA has already awarded four successful companies at a fixed price contract with 10 others deemed competitive, which means we can expect that very little development is required.

Every time the government develops their own version of the same technologies, it inhibits the investment and creative thinking necessary for America’s next big play in space. The boldest and most innovative investors and engineers in the commercial sector shy away from space as a business opportunity when the government insists on staying in the ring, because there are no longer the 10-20X multiples on private investment that commercial opportunities in the tech sector can deliver. Institutional investors do still pour capital into traditional defense companies, especially in times of increasing hostilities. Unfortunately for them, however, the valuation multiples on revenue are far lower – about 2X – and only match the pace of government expansion.

We must rethink the policy incentive structure of last century’s space industrial model to reward unbounded free market economic growth instead of companies whose market cap only grows with more national defense spending. Admittedly, there are instances in which it is still necessary for the government to develop their own satellite, component or rocket, but it is increasingly rare.

The U.S. government once again must transition to become a consumer of commercial space goods and services so that America’s space industry outpaces its adversaries. An organic, commercial space marketplace exists now and must be rewarded, not stifled. We are on a tight schedule, because near-peer competitors like China (and others) are aware of this strategic competition and instead choose to [leverage their nascent technologies to outpace us](https://www.forbes.com/sites/charlesbeames/2020/10/14/the-dragon-is-breathing-down-our-neck-action-is-americas-best-weapon/?sh=67a437724cb5).

The role for the government is larger and more strategic than ever before, but it is our capital markets that are our biggest advantage in Great Power competition. We must maximize this strength by encouraging private investments in the new space economy, promoting competition among commercial providers, and not competing against the very technologies we hope to leverage to secure America’s promising future in space.

#### US Hegemony solves existential impacts.

Ikenberry 20 John Ikenberry 6-9-2020 “The Next Liberal Order: The Age of Contagion Demands More Internationalism, Not Less” <https://www.foreignaffairs.com/articles/united-states/2020-06-09/next-liberal-order> (Albert G. Milbank Professor of Politics and International Affairs at Princeton University and Global Eminence Scholar at Kyung Hee University, in South Korea)//Elmer

The rivalry between the United States and China will preoccupy the world for decades, and the problems of anarchy cannot be wished away. But for the United States and its partners, a far greater challenge lies in what might be called “the problems of modernity”: the deep, worldwide transformations unleashed by the forces of science, technology, and industrialism, or what the sociologist Ernest Gellner once described as a “tidal wave” pushing and pulling modern societies into an increasingly complex and interconnected world system. Washington and its partners are threatened less by rival great powers than by emergent, interconnected, and cascading transnational dangers. Climate change, pandemic diseases, financial crises, failed states, nuclear proliferation—all reverberate far beyond any individual country. So do the effects of automation and global production chains on capitalist societies, the dangers of the coming revolution in artificial intelligence, and other, as-yet-unimagined upheavals. The coronavirus is the poster child of these transnational dangers: it does not respect borders, and one cannot hide from it or defeat it in war. Countries facing a global outbreak are only as safe as the least safe among them. For better or worse, the United States and the rest of the world are in it together. Past American leaders understood that the global problems of modernity called for a global solution and set about building a worldwide network of alliances and multilateral institutions. But for many observers, the result of these efforts—the liberal international order—has been a failure. For some, it is tied to the neoliberal policies that produced financial crises and rising economic inequality; for others, it evokes disastrous military interventions and endless wars. The bet that China would integrate as a “responsible stakeholder” into a U.S.-led liberal order is widely seen to have failed, too. Little wonder that the liberal vision has lost its appeal. Liberal internationalists need to acknowledge these missteps and failures. Under the auspices of the liberal international order, the United States has intervened too much, regulated too little, and delivered less than it promised. But what do its detractors have to offer? Despite its faults, no other organizing principle currently under debate comes close to liberal internationalism in making the case for a decent and cooperative world order that encourages the enlightened pursuit of national interests. Ironically, the critics’ complaints make sense only within a system that embraces self-determination, individual rights, economic security, and the rule of law—the very cornerstones of liberal internationalism. The current order may not have realized these principles across the board, but flaws and failures are inherent in all political orders. What is unique about the postwar liberal order is its capacity for self-correction. Even a deeply flawed liberal system provides the institutions through which it can be brought closer to its founding ideals. However serious the liberal order’s shortcomings may be, they pale in comparison to its achievements. Over seven decades, it has lifted more boats—manifest in economic growth and rising incomes—than any other order in world history. It provided a framework for struggling industrial societies in Europe and elsewhere to transform themselves into modern social democracies. Japan and West Germany were integrated into a common security community and went on to fashion distinctive national identities as peaceful great powers. Western Europe subdued old hatreds and launched a grand project of union. European colonial rule in Africa and Asia largely came to an end. The G-7 system of cooperation among Japan, Europe, and North America fostered growth and managed a sequence of trade and financial crises. Beginning in the 1980s, countries across East Asia, Latin America, and eastern Europe opened up their political and economic systems and joined the broader order. The United States experienced its greatest successes as a world power, culminating in the peaceful end to the Cold War, and countries around the globe wanted more, not less, U.S. leadership. This is not an order that one should eagerly escort off the stage. Any alternative is worse and causes great power war. The major alternatives to a modernized world order supported by the United States appear unlikely, unappealing, or both. A Chinese-led order, for example, would be an illiberal one, characterized by authoritarian domestic political systems and statist economies that place a premium on maintaining domestic stability. There would be a return to spheres of influence, with China attempting to domi-nate its region, likely resulting in clashes with other regional powers, such as India, Japan, and Vietnam, which would probably build up their conventional or even nuclear forces. A new democratic, rules-based order fashioned and led by medium powers in Europe and Asia, as well as Canada, however attractive a concept, would simply lack the military capacity and domestic political will to get very far. A more likely alternative is a world with little order—a world of deeper disarray. Protectionism, nationalism, and populism would gain, and democracy would lose. Conflict within and across borders would become more common, and rivalry between great powers would increase. Cooperation on global challenges would be all but precluded. If this picture sounds familiar, that is because it increasingly corresponds to the world of today. The deterioration of a world order can set in motion trends that spell catastrophe. World War I broke out some 60 years after the Concert of Europe had for all intents and purposes broken down in Crimea. What we are seeing today resembles the mid-nineteenth century in important ways: the post– World War II, post–Cold War order cannot be restored, but the world is not yet on the edge of a systemic crisis. Now is the time to make sure one never materializes, be it from a breakdown in U.S.-Chinese relations, a clash with Russia, a conflagration in the Middle East, or the cumulative effects of climate change. The good news is that it is far from inevitable that the world will eventually arrive at a catastrophe; the bad news is that it is far from certain that it will not.

## 3 – Internet

#### Internet is open to massive vulnerabilities now

Griffiths 19 James Griffiths 7-26-2019 "The global internet is powered by vast undersea cables. But they’re vulnerable." <https://www.cnn.com/2019/07/25/asia/internet-undersea-cables-intl-hnk/index.html> (CNN Analyst)//ELmer

Hong Kong (CNN) - On July 29, 1858, two steam-powered battleships met in the middle of the Atlantic Ocean. There, they connected two ends of a 4,000 kilometer (2,500 mile) long, 1.5 centimeter (0.6 inch) wide cable, linking for the first time the European and North American continents by telegraph. Just over two weeks later, the UK’s Queen Victoria sent a congratulatory message to then US President James Buchanan, which was followed by a parade through the streets of New York, featuring a replica of a ship which helped lay the cable and fireworks over City Hall. In their inaugural cables, Queen Victoria hailed the “great international work” by the two countries, the culmination of almost two decades of effort, while Buchanan lauded a “triumph more glorious, because far more useful to mankind, than was ever won by conqueror on the field of battle. The message took over 17 hours to deliver, at 2 minutes and 5 seconds per letter by Morse code, and the cable operated for less than a month due to a variety of technical failures, but a global communications revolution had begun. By 1866, new cables were transmitting 6 to 8 words a minute, which would rise to more than 40 words before the end of the century. In 1956, Transatlantic No. 1 (TAT-1), the first underwater telephone cable, was laid, and by 1988, TAT-8 was transmitting 280 megabytes per second – about 15 times the speed of an average US household internet connection – over fiber optics, which use light to transmit data at breakneck speeds. In 2018, the Marea cable began operating between Bilbao, Spain, and the US state of Virginia, with transmission speeds of up to 160 terabits per second – 16 million times faster than the average home internet connection. Today, there are around 380 underwater cables in operation around the world, spanning a length of over 1.2 million kilometers (745,645 miles). Underwater cables are the invisible force driving the modern internet, with many in recent years being funded by internet giants such as Facebook, Google, Microsoft and Amazon. They carry almost all our communications and yet – in a world of wireless networking and smartphones – we are barely aware that they exist. Yet as the internet has become more mobile and wireless, the amount of data traveling across undersea cables has increased exponentially. “Most people are absolutely amazed” by the degree to which the internet is still cable-based, said Byron Clatterbuck, chief executive of Seacom, a multinational telecommunications firm responsible for laying many of the undersea cables connecting Africa to the rest of the world. “People are so mobile and always looking for Wi-Fi,” he said. “They don’t think about it, they don’t understand the workings of this massive mesh of cables working together. “They only notice when it’s cut.” Network down In 2012, Hurricane Sandy slammed into the US East Coast, causing an estimated $71 billion in damage and knocking out several key exchanges where undersea cables linked North America and Europe. “It was a major disruption,” Frank Rey, director of global network strategy for Microsoft’s Cloud Infrastructure and Operations division, said in a statement. “The entire network between North America and Europe was isolated for a number of hours. For us, the storm brought to light a potential challenge in the consolidation of transatlantic cables that all landed in New York and New Jersey.” For its newest cable, Marea, Microsoft chose to base its US operation further down the coast in Virginia, away from the cluster of cables to minimize disruption should another massive storm hit New York. But most often when a cable goes down nature is not to blame. There are about 200 such failures each year and the vast majority are caused by humans. “Two-thirds of cable failures are caused by accidental human activities, fishing nets and trawling and also ships’ anchors,” said Tim Stronge, vice-president of research at TeleGeography, a telecoms market research firm. “The next largest category is natural disaster, mother nature – sometimes earthquakes but also underwater landslides.” A magnitude-7.0 earthquake off the southwest coast off Taiwan in 2006, along with aftershocks, cut eight submarine cables which caused internet outages and disruption in Taiwan, Hong Kong, China, Japan, Korea and the Philippines. Stronge said the reason most people are not aware of these failures is because the whole industry is designed with it in mind. Companies that rely heavily on undersea cables spread their data across multiple routes, so that if one goes down, customers are not cut off. How a cable gets laid Laying a cable is a years-long process which costs millions of dollars, said Seacom’s Clatterbuck. The process begins by looking at naval charts to plot the best route. Cables are safest in deep water where they can rest on a relatively flat seabed, and won’t rub against rocks or be at risk of other disturbances. “The deeper the better,” Clatterbuck said. “When you can lay the cable down in deep water you rarely have any problems. It goes down on the bottom of the seabed and just stays there.” Things become more difficult the closer you get to shore. A cable that is only a few centimeters thick on the bottom of the ocean must be armored from its environment as reaches the landing station that links it with the country’s internet backbone. “Imagine a long garden hose, inside of which are very small tubes that house a very, very thin fiber pair,” Clatterbuck said. That hose is wrapped in copper, which conducts the direct current that powers the cable and its repeaters, sometimes up to 10,000 volts. “The fibers are wrapped in urethane and wrapped in copper and wrapped again in urethane,” he said. “If we’re going to have to put that cable on a shoreline that is very shallow and has a lot of rocks, you’re now going to have to armor coat that cable so no one can hack through it.” Cables in less hospitable areas can be far thicker than garden hoses, wrapped in extra plastic, kevlar armor plating, and stainless steel to ensure they can’t be broken. Depending on the coast, cable companies might also have to build concrete trenches far out to sea, to tuck the cable in to protect it from being bashed against rocks. “Before the cable-laying vessels go out they send out another specialized ship that maps the sea floor in the area when they want to go,” said TeleGeography’s Stronge. “They want to avoid areas where there’s a lot of undersea currents, certainly want to avoid volcanic areas, and avoid a lot of elevation change on the sea floor.” Once the route is plotted and checked, and the shore connections are secure, huge cable laying ships begin passing out the equipment. “Imagine spools of spools of garden hose along with a lot of these repeaters the size of an old travel trunk,” Clatterbuck said. “Sometimes it can take a month to load the cable onto a ship.” The 6,600 kilometer (4,000 mile) Marea cable weighs over 4.6 million kilograms (10.2 million pounds), or the equivalent of 34 blue whales, according to Microsoft, which co-funded the project with Facebook. It took more than two years to lay the entire thing. Malicious cuts The blackout came without warning. In February 2008, a whole swath of North Africa and the Persian Gulf suddenly went offline, or saw internet speeds slow to a painful crawl. This disruption was eventually traced to damage to three undersea cables off the Egyptian coast. At least one – linking Dubai and Oman – was severed by an abandoned, 5,400 kilogram (6-ton) anchor, the cable’s owner said. But the cause of the other damage was never explained, with suggestions it could have been the work of saboteurs. That raises the issue of another threat to undersea cables: deliberate human attacks. In a 2017 paper for the right-wing think tank Policy Exchange, British lawmaker Rishi Sunak wrote that “security remains a challenge” for undersea cables. “Funneled through exposed choke points (often with minimal protection) and their isolated deep-sea locations entirely public, the arteries upon which the Internet and our modern world depends have been left highly vulnerable,” he said. “The threat of these vulnerabilities being exploited is growing. A successful attack would deal a crippling blow to Britain’s security and prosperity.” However, with more than 50 cables connected to the UK alone, Clatterbuck was skeptical about how useful a deliberate outage could be in a time of war, pointing to the level of coordination and resources required to cut multiple cables at once. “If you wanted to sabotage the global internet or cut off a particular place you’d have to do it simultaneously on multiple cables,” he said. “You’d be focusing on the hardest aspect of disrupting a network.”

#### Uniquely, Mega-constellations of satellites are key to expanding Internet access across the globe--- automated collision avoidance systems can solve risk of space debris.

Unal 21 Unal, Beyza. “Collision Risks In Space Due To Mega-constellations.” Chatham House. October 26, 2021. Web. <https://www.chathamhouse.org/2021/10/collision-risks-space-due-mega- constellations>. arv

Mega-constellations are composed of several hundreds of highly networked satellites in low Earth orbit, and they are fundamental in providing uninterrupted communication through networks across the globe, enabling internet access even in remote areas. The space industry has shown great interest in mega-constellations due to their expected high return on capital invested. SpaceX, via its Starlink satellite internet constellations, has already launched 60 satellites into low-earth orbit (LEO) in May 2021. It plans to launch thousands more in the coming years as part of its mega-constellation project. OneWeb, Amazon, and several other private space companies have similar ambitions. Unregulated launches of mega-constellations, however, make low Earth orbit too crowded to function safely and securely. Such congestion increases the risk of collision, such as with other active satellites, untracked debris, and meteoroids. Even a single collision in outer space can cause significant cascade effects, creating future collisions, as collisions ‘give rise to more debris and lead to more collisions’. Near misses provide learnings Space-faring nations and the space industry should learn from the several near miss incidents that have already taken place with single satellites and mega-constellations in outer space. In 2018, the mission controllers of the CryoSat-2, a satellite that monitors precise changes in the thickness of polar ice sheets, had to manoeuvre their satellite into a higher orbit to prevent collision with a piece of debris. In 2019, the European Space Agency (ESA) moved its earth observation satellite to avoid it colliding with a Starlink satellite. The collision risk, in this incident, was estimated to be ‘ten times higher than the threshold that required a collision avoidance manoeuvre’. While manoeuvring away from a piece of debris is common practice, the space industry is still learning how to manoeuvre to prevent collision with an active satellite. The latter requires direct communication hotlines between the operators involved, at all times. Current communication between operators, however, is conducted on an ad-hoc basis and over email exchanges. This is neither sustainable nor efficient as outer space becomes even more congested, exponentially increasing the risk of collision. Academic assessments also reveal a grim picture for the future of the on-orbit environment. By using the European Space Agency (ESA)’s debris evolutionary model, researchers tested the probability of multiple collisions of mega-satellite constellations and identified ‘significant risk from non-trackable debris objects’. These are objects smaller than ten centimetres in size. Although non-trackable debris generally poses non-catastrophic collision risks as a result of the existing shielding in the design of the satellites, these collisions may still be able to disable key satellite functions such as communications. The loss of critical functions may have cascading impacts not only on the overall health of the mega-satellite system in question but also on the functioning of critical national infrastructure on Earth. Another risk relates to the proliferation of emerging technologies and their impact on outer space security. Research indicates malicious actors are already capable of manoeuvring a single unprotected satellite to have it collide it with another satellite or with a space object through cyber means. And, although all satellites are vulnerable to cyber threats, mega-constellations require additional cybersecurity considerations because of their increased connectivity and the webbed nature of networks across units, for instance, through the Internet of Things (IoT) applications for communication purposes. Recommendations for rules of the road Due to the changing nature of the use of outer space and potential risks that mega-constellations pose to the safety and security of outer space, it is important to set out the rules of the road before it is too late to act. Multilateral solutions: Set up specific regulations and policies around mega-constellations to ensure sustainable operations and to minimize the risk of collision. This should include considering new approaches for space traffic management as the capacity of ground-based platforms ‘may not be sufficient to monitor and control’ the increased number of satellites in the near future. Create codes of conduct outlining the norms, rules and responsible behaviours in outer space, not only for states but also for the private sector. This is particularly important to prevent the monopoly of control over certain orbital regions by a handful of actors (both companies and countries) and to ensure rightful and equal access to these areas for all. Establish clear hotlines for communication between operators and for the operators to test these hotlines through joint exercises. Industry-wide solutions: It is impossible to prevent cyberattacks in the space and ground domains. Instead, the mega-constellation operators should conduct risk assessments, have a clear risk mitigation policy (i.e., for cyber threats, collision risks etc.), and should apply redundancy measures to prevent catastrophic failure. The ESA is developing an automated collision avoidance system that relies on machine learning techniques. This automated collision avoidance system will drastically decrease the likelihood of an in-space collision, once the machine learns from near-misses and can better predict future scenarios. Regardless, the operators should train their staff in interpreting machine-made decisions. Keeping humans involved in the decision-making process at all times would aid this process. Overall, the operator needs to be able to trust the system’s capabilities, and without adequate testing and evaluation mechanisms, this cannot be achieved. All of these recommendations should be coupled with the overarching principles of responsible innovation. For far too long, states have placed the emphasis in outer space security primarily on the governance of risk, but it is time to shift this paradigm and focus also on the governance of innovation to use technology for the benefit of international peace and security. All actors involved in the space domain are mutually responsible for each other’s security.

#### Internet access checks against multiple existential threats

Eagleman ’10 [Dr. David; 11/9/2010; PhD in Neuroscience @ Baylor University, Adjunct Professor of Neoroscience @ Stanford University, Former Guggenheim Fellow, Director of the Center for Science and Law, BA @ Rice University; “Six Ways The Internet Will Save Civilization”; https://www.wired.co.uk/article/apocalypse-no]

Many great civilisations have fallen, leaving nothing but cracked ruins and scattered genetics. Usually this results from: natural disasters, resource depletion, economic meltdown, disease, poor information flow and corruption. But we’re luckier than our predecessors because we command a technology that no one else possessed: a rapid communication network that finds its highest expression in the internet. I propose that there are six ways in which the net has vastly reduced the threat of societal collapse.

Epidemics can be deflected by telepresence

One of our more dire prospects for collapse is an infectious-disease epidemic. Viral and bacterial epidemics precipitated the fall of the Golden Age of Athens, the Roman Empire and most of the empires of the Native Americans. The internet can be our key to survival because the ability to work telepresently can inhibit microbial transmission by reducing human-to-human contact. In the face of an otherwise devastating epidemic, businesses can keep supply chains running with the maximum number of employees working from home. This can reduce host density below the tipping point required for an epidemic. If we are well prepared when an epidemic arrives, we can fluidly shift into a self-quarantined society in which microbes fail due to host scarcity. Whatever the social ills of isolation, they are worse for the microbes than for us.

The internet will predict natural disasters

We are witnessing the downfall of slow central control in the media: news stories are increasingly becoming user-generated nets of up-to-the-minute information. During the recent California wildfires, locals went to the TV stations to learn whether their neighbourhoods were in danger. But the news stations appeared most concerned with the fate of celebrity mansions, so Californians changed their tack: they uploaded geotagged mobile-phone pictures, updated Facebook statuses and tweeted. The balance tipped: the internet carried news about the fire more quickly and accurately than any news station could. In this grass-roots, decentralised scheme, there were embedded reporters on every block, and the news shockwave kept ahead of the fire. This head start could provide the extra hours that save us. If the Pompeiians had had the internet in 79AD, they could have easily marched 10km to safety, well ahead of the pyroclastic flow from Mount Vesuvius. If the Indian Ocean had the Pacific’s networked tsunami-warning system, South-East Asia would look quite different today.

Discoveries are retained and shared

Historically, critical information has required constant rediscovery. Collections of learning -- from the library at Alexandria to the entire Minoan civilisation -- have fallen to the bonfires of invaders or the wrecking ball of natural disaster. Knowledge is hard won but easily lost. And information that survives often does not spread. Consider smallpox inoculation: this was under way in India, China and Africa centuries before it made its way to Europe. By the time the idea reached North America, native civilisations who needed it had already collapsed. The net solved the problem. New discoveries catch on immediately; information spreads widely. In this way, societies can optimally ratchet up, using the latest bricks of knowledge in their fortification against risk.

Tyranny is mitigated

Censorship of ideas was a familiar spectre in the last century, with state-approved news outlets ruling the press, airwaves and copying machines in the USSR, Romania, Cuba, China, Iraq and elsewhere. In many cases, such as Lysenko’s agricultural despotism in the USSR, it directly contributed to the collapse of the nation. Historically, a more successful strategy has been to confront free speech with free speech -- and the internet allows this in a natural way. It democratises the flow of information by offering access to the newspapers of the world, the photographers of every nation, the bloggers of every political stripe. Some posts are full of doctoring and dishonesty whereas others strive for independence and impartiality -- but all are available to us to sift through. Given the attempts by some governments to build firewalls, it’s clear that this benefit of the net requires constant vigilance.

Human capital is vastly increased

Crowdsourcing brings people together to solve problems. Yet far fewer than one per cent of the world’s population is involved. We need expand human capital. Most of the world not have access to the education afforded a small minority. For every Albert Einstein, Yo-Yo Ma or Barack Obama who has educational opportunities, uncountable others do not. This squandering of talent translates into reduced economic output and a smaller pool of problem solvers. The net opens the gates education to anyone with a computer. A motivated teen anywhere on the planet can walk through the world’s knowledge -- from the webs of Wikipedia to the curriculum of MIT’s OpenCourseWare. The new human capital will serve us well when we confront existential threats we’ve never imagined before.

Energy expenditure is reduced

Societal collapse can often be understood in terms of an energy budget: when energy spend outweighs energy return, collapse ensues. This has taken the form of deforestation or soil erosion; currently, the worry involves fossil-fuel depletion. The internet addresses the energy problem with a natural ease. Consider the massive energy savings inherent in the shift from paper to electrons -- as seen in the transition from the post to email. Ecommerce reduces the need to drive long distances to purchase products. Delivery trucks are more eco-friendly than individuals driving around, not least because of tight packaging and optimisation algorithms for driving routes. Of course, there are energy costs to the banks of computers that underpin the internet -- but these costs are less than the wood, coal and oil that would be expended for the same quantity of information flow.

The tangle of events that triggers societal collapse can be complex, and there are several threats the net does not address. But vast, networked communication can be an antidote to several of the most deadly diseases threatening civilisation. The next time your coworker laments internet addiction, the banality of tweeting or the decline of face-to-face conversation, you may want to suggest that the net may just be the technology that saves us.

# Case

#### The [Aff] studies about CO2 impact are exaggerated

* peer-reviewed journal shows IPCC exaggeration
* history proves resilience
* no extinction- warming under Paris goals
* rock breaking strategy could offset warming

IBD 18 Investors Business Daily 4-25-2018 “Here's One Global Warming Study Nobody Wants You To See” <https://www.investors.com/politics/editorials/global-warming-computer-models-co2-emissions/> (Citing Study from Peer reviewed journal by Lewis and Curry)//Re-cut by Elmer

Settled Science: A new study published in a peer-reviewed journal finds that climate models exaggerate the global warming from CO2 emissions by as much as 45%. If these findings hold true, it's huge news. No wonder the mainstream press is ignoring it. In the study, authors Nic Lewis and Judith Curry looked at actual temperature records and compared them with climate change computer models. What they found is that the planet has shown itself to be far less sensitive to increases in CO2 than the climate models say. As a result, they say, the planet will warm less than the models predict, even if we continue pumping CO2 into the atmosphere. As Lewis explains: "Our results imply that, for any future emissions scenario, future warming is likely to be substantially lower than the central computer model-simulated level projected by the (United Nations Intergovernmental Panel on Climate Change), and highly unlikely to exceed that level. How much lower? Lewis and Curry say that their findings show temperature increases will be 30%-45% lower than the climate models say. If they are right, then there's little to worry about, even if we don't drastically reduce CO2 emissions. The planet will warm from human activity, but not nearly enough to cause the sort of end-of-the-world calamities we keep hearing about. In fact, the resulting warming would be below the target set at the Paris agreement. This would be tremendously good news. The fact that the Lewis and Curry study appears in the peer-reviewed American Meteorological Society's Journal of Climate lends credibility to their findings. This is the same journal, after all, that recently published widely covered studies saying the Sahara has been growing and the climate boundary in central U.S. has shifted 140 miles to the east because of global warming. The Lewis and Curry findings come after another study, published in the prestigious journal Nature, that found the long-held view that a doubling of CO2 would boost global temperatures as much as 4.5 degrees Celsius was wrong**.** The most temperatures would likely climb is 3.4 degrees. It also follows a study published in Science, which found that rocks contain vast amounts of nitrogen that plants could use to grow and absorb more CO2, potentially offset**ting** at least some of the effects of CO2 emissions and reducing future temperature increases.

#### Anthropocentrism increases respect for the environment

**Wilson 18** (Vanessa, Vanessa Wilson is a guest scientist at the German Primate Centre, Goettingen, "Using anthropocentrism to the benefit of other species," WBI Studies Repository, 2018, https://www.wellbeingintlstudiesrepository.org/animsent/vol3/iss23/6/, accessed 7-7-2021//cpd)

Chapman & Huffman (2018) (C & H) argue for a change in the way we view other species, considering them different but equal, rather than considering some inferior to others. This would be another reflection of our own cultural progression over the last century, with increased gender equality and the abandonment of ideas of racial superiority. C & H make the valid point that we should not rank species vertically, with humans at the top; rather, we should consider the diversity of traits across species and addresstheir importance in their own right. This could help researchers broaden their view beyond anthropocentrism, to the benefit of both research and respect for other species. Yet one could argue that those who continue to take an anthropocentric view of the world – believing humans to be unique amongst animals – can also increase respect for other species when they find similarities between humans and those species. 2. Advantages of an anthropocentric approach Research on great apes over the past fifty years has highlighted strong cognitive and emotional parallels with humans (Clay & de Waal, 2013; Parr, 2001; van Lawick-Goodall, 1973; Wilson, 2018) that have changed the way we treat apes, especially excluding them from medical research for humane reasons (Bennett & Panicker, 2016; “Great ape debate,” 2011). It is not that all species' traits should be compared to humans, or that humans provide the gold standard with which everything else should be compared. But findings like those on apes allow us to view other species in a more humane light and thus change how we relate to them. Knowing that crayfish differentiate between facial features of conspecifics (Van der Velden, Zheng, Patullo, & Macmillan, 2008), that goats show emotion recognition (Bellegarde et al., 2017; Nawroth et al., 2018), that ravens console friends (Fraser & Bugnyar, 2010), and that Animal Sentience 2018.168: Wilson on Chapman & Huffman on Human Difference 2 apes seem to understand false beliefs in others (Buttelmann, Buttelmann, Carpenter, Call, & Tomasello, 2017; Krupenye, Kano, Hirata, Call, & Tomasello, 2016), humanizes these animals in our minds. This is the current trajectory of animal welfare laws that govern how we treat animals in captivity. The development of our knowledge about the behaviour and cognition of other species has encouraged the adoption of social housing for captive primates in research (National Centre for the Replacement Refinement and Reduction of Animals in Research, 2017), provided protection for invertebrates such as cephalopods under various European and international legislation (Berry, Vitale, Carere, & Alleva, 2015; Fiorito et al., 2014), and is taking steps towards improved welfare for crustaceans sold for consumption (Carder, 2017). 3. Removing the species hierarchy If we continue to realise that, like us, other species feel pain, can empathize and have awareness of others, does this not benefit the rights and protection that we accord to those species? As Juergens (2018) notes, the uniqueness of our species is that we have a responsibility for the impact of our actions on other species. Perhaps a more generous approach is to grant all species the same protection – a benefit-of-the-doubt approach (Bekoff, 2007). However, as long as we rely on other species for our daily needs – food, medical research, and even companionship – it is unlikely that the needs of humans will be subordinated to the needs of other species. Until they are, what harm is there in drawing comparisons between humans and other species when it is for the benefit of those species? C & H are right that we do not need to do this in a vertical manner. Humans do not need to be the pinnacle of a trait hierarchy. Yet I think it will take a very different mind-set, not to mention culture, to stop giving humans the moral high ground over other species.

#### Centering human uniqueness is key to an ethic of responsibility that prevents extinction and enables recognition of our entanglement with nature—it doesn’t cause anthropocentric hierarchies.

Govind, 21—School of Law, Macquarie University (Paul, “Extinction in the anthropocene and moving toward an ethic of responsibility,” Griffith Law Review, June 7, 2021, dml) [apposite=“suited for,” not “opposite”]

Earth systems science and the transgressions of Earth systems are foundational to scientific and physical understandings of the Anthropocene. However, it constitutes a statement of fact rather than a guiding normative, ethical position for the Anthropocene. That gap must be filled through establishing and facilitating ethical frameworks that embrace this fact and draw attention to the implications of its reality. Burdon suggests that our response to Earth System Science could ‘develop environmental ethics and law that are grounded in humility and, precaution and obligations.’ 20 Hans Jonas’ theory on responsibility compels humanity to embrace an ethical framework that goes beyond the limitations of traditional interpersonal ethics. Jonas’ ethic of responsibility is human centric.21 It reflects upon humanity’s position in the world and how this should guide its actions and decision. He identifies two complementary elements that are foundational to an ethic of responsibility – humanity’s immense and growing power (described as an ability to change the world) and its embeddedness with nature and the other species.22 Key to developing this position was the factual observations of humanity’s destructive power wielded as a consequence of rapid technological advance and growth. With the growth of power came the extension, or at least the ability to extend, human freedom. Rather than advocating a system of individual rights, Jonas focused on restricting human action in the face of technological advancement and exploitation that had led to an ethical vacuum.

Jonas maintains that the power wielded by humanity can have devastating consequences that in some cases are not yet known or understood. The surge is protected from criticism or restraint, ethically or legally, because it is so deeply entwined with the exercise of rights. As a result, the expansion of rights that is coupled to humanity’s expansion of power must be restrained by a countervailing ethic of responsibility.23 Invoking and instilling responsibility requires re-imagination of our ethical frameworks and relevant legal systems. This resonates with Jonas’ point that responsibility as an ethical position will not develop as an automated response. For Jonas, responsibility is a response based in an emotion: ‘Our emotional side must come into play. And it is indeed of the essence of our moral nature that the appeal … finds an answer in our feeling. It is the feeling of responsibility.’ 24

Responsibility requires care, respect and regard for the well-being, interest and fate of those under ones’ care. The other aspect of a relationship that forms the basis for responsibility is an affirmative obligation to guard, care or protect. While this has clear links to the basis of fiduciary obligations, it is important to reiterate that Jonas sought to formulate an ethical framework of responsibility that applied to both the public and private realms. Jonas does not position nature or more-than-human species as the objects of moral concern. This outcome is reminiscent of Kantian approaches to ethics, in that objects of responsibility are first and foremost, humans.25 This designation is underpinned by the qualities of existence and reciprocity. How can we take the normative position of moral responsibility adopted toward humans and apply it to include nature? Jonas maintains that more-than-human species have their intrinsic worth – meaning that they can be the object of responsibility. However, this does not blend seamlessly with the quality of reciprocity. Jonas maintains that in order to be an object of moral consideration, the object/it must be a potential bearer of responsibility. If only humanity is capable of reciprocity, then it is the only species capable of being an object and bearer of moral responsibility. Respect for nature stems from extending to nature the scope of our moral concern. This extension necessarily recognises the intrinsic value of nature and more-than-human species – ‘we are acknowledging that nature is worthy of our respect, responsibilities for nature will stem from this.’ 26 In the words of Taylor, Jonas provides, ‘a justification to better co-ordinate the exercise of individual freedoms, with the necessity to protect nature.’ 27

B. Responsibility and entanglement

This is of course a strong anthropocentric position – however, one that is apposite for setting a new ethical framework for the Anthropocene.28 Jonas resolves this be developing what Taylor describes as a ‘kind of evolved anthropocentrism.’ 29 Burdon poses the question whether law can focus on human uniqueness in response to the Anthropocene and also give due regard and acknowledgment to entanglement of humanity and nature.30 Human uniqueness does not equate to a sense of hierarchy or subordination – it advocates that within an entangled, assemblage existence, humanity ‘are a unique species with immense power. Whatever complex relations make up the Earth system, it is vitally important that we come to terms with this and grapple with its normative implications.’ 31 Despite advocating a human centred ethical framework in order to promote the primacy of responsibility, Jonas does not endorse the existence of hierarchy. Through Jonas’ scholarship, entanglement takes the form of the ‘holistic or integrative concept of man which includes all life.’ 32 From this grows the ethic of responsibility as relevant for the Anthropocene epoch. The technological advance central to Jonas’ scholarship shares many traits with the Earth System science that serves as the factual basis of the Anthropocene. Both demonstrate that humanity has, and continues, to lengthen the consequences of our actions and our capacity to trigger and instigate change. In both scenarios, the underlying manifestation of humanity’s reach is power. The power and scale of human agency as central to the Anthropocene highlights the importance of responsibility.33 Burdon contends that the Anthropocene ‘encourages us to develop environmental ethics and law that begin from and are ordered around human beings.’ 34 He explains further that ‘We are the only animal with the power to influence the Earth system … we need to come to grips with our power and find ways to exercise it with humility, responsibility and caution.’ 35 In order to achieve this a departure from the primacy of rights and a greater facilitation of responsibility (or obligations as used by Burdon) is necessary. This requires value change. Ethical frameworks both internal and external to law, must place the critical scrutiny of human power at its centre.36

The application of Jonas’ work allows us to forge an ethical framework that negotiates and reconciles the apparent paradoxical elements of the Anthropocene – human entanglement and human uniqueness – by challenging the artificial separation of humanity and nature whilst ensuring that humanity’s ethical agency is not lost. A residual message from scholarship on the Anthropocene, is the focus on entanglement. Whilst the Holocene paradigm represented separation and control, by contrast the Anthropocene represents a world of entanglement. The challenge is highlighted by Lövbrand, Mobjörk and Söder: ‘in the Anthropocene the environment is not “out there”, but always “with” and “in here”.’ 37 Purdy maintains that the crux of the paradigm shift engendered by the Anthropocene is that, ‘There is no more nature that stands apart from human beings … .The question is no longer how to preserve the wild world from human intrusion; it is what shape we will give to a world we can’t help changing.’ 38 This is crucially important from a biological perspective and also an ethical/moral one. In responding to the reality of challenges presented by the Anthropocene, it is critical that humanity revels in its difference but without hierarchy – or in other words, leads a planetary response on behalf of the interests of nature and all more-than-human species. The emphasis is upon the role of humanity as the principal agent of planetary change, as Dalby states, ‘Humanity is remaking its own context very rapidly.’ 39 Change is constant. Re-configuration of the relationship between humanity and nature will occur continually and in ways we do not intend and cannot anticipate. Law can and indeed must play a role in this new reality. The challenge for humanity and by extension law is whether it has the tools that can adapt to this new reality of unpredictability, instability and constant re-configuration.

As mentioned, entanglement together with humanity’s uniqueness forms a paradox that has assumed central significance in the Anthropocene paradigm.40 However, despite appearing to advocate contrary positions, both motivate a stronger sense of ethical responsibility. Entanglement with nature in the Anthropocene is the foundation for an ethical framework of responsibility.41 De Lucia relevantly notes that, ‘[k]nowledge in the Anthropocene is characterised by epistemological pluralism and by an inevitable entanglement with values, while a central role is assumed by uncertainty and complexity.’ 42 It necessitates that our knowledge and understanding of space, particularly shared space, needs to change constantly.43

The paradox extends further. The uniqueness of humanity in the Anthropocene strengthens the ethical onus on humanity to act with responsibility. Entanglement combined with humanity’s capacity to destroy the planet serves to underline humanity’s vulnerability in the Anthropocene and indeed the prospect of extinction.44 Vulnerability positions humanity as part of what is fragile, susceptible to change. It serves as a frightening reminder that the space we inhabit is exposed and that we do not enjoy the safety of observing it from a safe distance.45 This state of vulnerability that characterises the human agent reveals that the ‘modalities of … power that underpin the Anthropocene, faced with the socio-ecological consequences of their success are in a state of crisis.’ 46

#### Humanism is good- we have the quality of being- therefore anthropocentrism is necessary.

**Sztybel 2000** (David, [Research Fellow](http://veaw.univie.ac.at/editors/advisory-board/) with the University of Vienna “Taking Humanism Seriously: ``Obligatory’’ Anthropocentrism.” Journal of Agricultural & Environmental Ethics, vol. 13, no. 3, Kluwer Academic Publishers, 2000, pp. 181–203, doi:10.1023/A:1009507315999.)//AB

III. HUMANISTIC CRITERIA OF MORAL STANDING Implicit in the foregoing is the idea that previous attempts at articulating humanism have come across as grievously question-begging. The problem here – which I can only hint at without a literature review several times longer than this paper – is that such articulations almost inevitably describe nonhuman animals as different in some respect, which supposedly makes it appropriate to deny that animals need to be liberated. It is never made clear, in my view, just how these differences (which may not be so different from many marginal humans) somehow defeat animal liberation. Aristotle praised humans’ supposedly distinctive function of rationality,11 and Aquinas echoed this emphasis in that only rational agents use things, and therefore, everything else – including nonhuman animals – are only, at best, fit to be used.12 Kant held that rational beings ought always to be treated as ends in themselves, and never merely as a means, and the “ground of this principle is: Rational nature exists as an end in itself.”13 Hegel is yet another voice in the classical chorus of rationalistic humanism: “Man is an end in himself only by virtue of the divine in him – that which we designated at the outset as Reason ...”14 Richard Watson, much more recently, also extols the importance of intelligence and reason in determining who counts in ethics.15 Bonnie Steinbock16 also cites intelligence as a criterion of moral standing (i.e., criteria of who deserves fundamental practical respect in the form of rights, utilitarian consideration, caring, etc.), in addition to moral agency. Michael Leahy, in Against Liberation: Putting Animals in Perspective, also emphasizes moral agency, contending that nonhumans lack a moral vocabulary, and therefore have no place in the social contract that he envisions.17 A. I. Melden also emphasizes moral agency, in this case, as a criterion for determining who possesses moral rights.18 Carl Cohen offers a comparable notion related to moral agency and moral community.19 Alan Holland specifies autonomy, rationality, and self-consciousness as criteria for moral standing.20 L. B. Cebik objects to ascribing rights to animals on the grounds that they cannot claim them, nor carry out the obligations imposed by them, and also because they lack a concept of self.21 Ruth Cigman also stresses the importance of self-concept.22 Michael Allen Fox, before his transformation into an animal liberationist, insisted on a whole number of criteria of moral standing: critical self-awareness, the ability to utilize concepts in complex ways and to use sophisticated languages, to manipulate, reflect, plan, deliberate, choose, accept responsibility for acting, form a life plan, and self-actualize.23 Meredith Williams tells us that nonhuman animals cannot take an interest in their own welfare, since they lack rationality, and so cannot conceive of future or past, form goals, and thus go beyond the “here-and-now.”24 Animals “fail to be capable of having cultural lives,” she posits, and only with such a life can one make sense of having interests informed by morality.25 Several other authors, significantly, are united in stressing the moral relevance of richness of quality of life, either implicitly or explicitly.26 R. G. Frey consistently favors richer lives, both human and nonhuman, over comparatively “impoverished” lives, whatever the species may be in any given case. No argument is given for the moral relevance of this quality of richness, or value in lives, rendering it on an epistemic par with the other humanistic criteria of moral standing already examined. Filling that gap may not be much of a leap – and indeed I think it ought not to be – but that is what OA will try to do explicitly. Frey might regard what is explicit in OA as implicit in his own view, but in any case, constructing the strongest case for humanism requires all due rigor. For obvious reasons of space, it is not possible thoroughly to explore all of the humanistic literature cited in this paper. I can only suggest that a careful reading of these texts will show that: (1) there is a general lack of convincing argumentation, although no lack of assertion, to the effect that nonhuman animals lack self-consciousness, reason, and many of the other characteristics cited, (2) there is virtually no argument showing the relevance of these criteria for “de-selecting” animals as beings that ought to be liberated, and (3) there is a paucity of grounds for full rights and respect for marginal humans, who also fail these criteria. I am primarily concerned with articulating “obligatory” anthropocentrism here, rather than criticizing other theories, but at least these suggestive comments about other humanistic theories help to place OA in its general theoretical context. Readers who are familiar with the anti-animal-liberationist literature may find these last observations to be sufficiently evident, whereas those who have yet to explore or re-explore that literature may seek to verify my findings for themselves. IV. “OBLIGATORY” ANTHROPOCENTRISM Once again, it begs the question simply to state that richness of life is the criterion of moral standing that we should adopt, even if it is associated with the idea that some lives have more value than others. Such a view, if it is to be convincing, needs further argument. However, my contention is that such argumentation is possible – and perhaps even dangerously so – in the form of “obligatory” anthropocentrism. This argument, in turn, will serve to undermine the earlier-cited complacency of animal liberationist ethicists (to the extent that it may exist). Furthermore, such an argument might, in turn, lead to a call for vigilance, and a further search for an adequate theory of animal ethics. I will begin by offering an extensive list of things that might be taken to enrich a life, or which, in their ideal forms at least, are better to have than to lack: 1. Artistic or creative endeavor 2. Autonomy 3. Awareness of self 4. Beauty 5. Capacity for play (games, dancing, music, joyful motions, etc.) 6. Cultural or societal interrelationships 7. Exchange of goods and services (i.e., general reciprocity and economic productivity) 8. Freedom 9. Health 10. Humor 11. Intelligence (sometimes conceived less formally than rationality) 12. Language usage (or perhaps advanced communication, as well; language is richer) 13. Legal engagement 14. Moral agency 15. Physical prowess (strength, agility, speed, physical senses, rending power, endurance, sexual vigor, dexterity) 16. Political participation 17. Rationality 18. Sentience 19. Sociability (friendship and love) 20. Spirituality (religious pursuits would be optional here) This list may broadly be referred to as “Q,” for quality of being, or the potential to experience and create goodness. Q differs from quality of life, or the level of well-being that one happens to enjoy at any particular time (which says nothing about the goodness of one’s agency). Whereas quality of life might go up and down throughout an illness, one’s quality of being may stay the same, as one has potentialities for goodness as the kind of being one is (although a bad enough illness might make one a sort of being who cannot enjoy or bring about significant goodness). This potential (and OA loves even potential goodness) is not even restricted to the actual accomplishments that yield merit (although the latter is undeniably of value). This list may be representative enough for my purposes, but there is no reason why any humanist might not substitute his or her own set of Q-characteristics, as he or she sees fit. Although the terms are analytically problematic, they still identify things that might commonly be thought to TAKING HUMANISM SERIOUSLY: “OBLIGATORY” ANTHROPOCENTRISM 189 be riches of the sort that I have in mind, and humanistic thinkers are invited to choose their favorite meanings of terms as well as their favorite list of terms to begin with. OA will also presuppose Aristotle’s ancient dictum that ethics is not a precise science. (Nichomachean Ethics 1094b24−7) For instance, it is hard to measure or confirm qualities of being, but we can still make our best reckoning, and may even be obliged to do so. Also, in spite of the importance of rationality in its underlying much of Q – a pattern that is consistent with the pre-eminent status of rationality in the moral philosophical tradition – I include the common sense presumption that sentience, in the sense of a capacity to feel pleasure (and, of course, pain), is also part of the richness of our quality of life. Many rationalists are anxious to deny that sentience has any moral significance, possibly in order to match the prevailing notion that most sentient beings have no moral standing. However, in trying to frame a more plausible version of humanism, I would side with the majority in our culture in affirming that not only are pleasure and pain morally important, but also, nonhuman animals are indeed sentient in this sense (a thesis that I shall not defend in this work). One need not agree to the unpopular, and philosophically problematic, stances of either Cartesianism or else asceticism in order to make out the strongest case for anti-animal-liberation – just the contrary is true. The actual OA argument assumes that all of those who have Q, such as you and I, do indeed have moral standing. I work with this premise because any practical ethic that would command respect in today’s world would have to recognize human rights, or some other basic form of practical respect, for at least normal adult human beings as paradigm cases. Here, then, is the argument for “obligatory” anthropocentrism itself: 1. Q is not only relevant to but also sufficient for assigning moral standing, since all those who possess Q also have moral standing. 2. Q alone is relevant to determining moral standing, since morally, it is the very best such criterion that one could choose amongst all of the competing criteria, and this is true for the following reasons: (a) That which is best is that which has the most good. (b) That which has the most good is richest. (c) Therefore what is richest is best. (d) Each thing listed in Q is a good, for it seems better to have than to lack such things. (e) So Q is richer than any more modest criterion of moral standing such as being alive, being sentient, or being a subject of a life. 190 DAVID SZTYBEL (f) All other things being equal, ethics involves a pursuit of the good, or “the good life,” preferring that which is better, and ideally aspiring to what is best. (g) Therefore, morally, we should aspire to holding Q as the best criterion of moral standing. 3. So Q is necessary for having full moral standing. 4. Since Q is both necessary and sufficient for full moral standing, it follows that those who have only some of the criteria do count for something, since they exemplify some riches, but they will have less of a moral claim than those who fully embody all of Q. 5. Nonhuman animals either lack Q, or might only have a more or less impoverished realization of it, such as in the case of whales, apes, and dogs. 6. Those nonhuman animals that utterly lack Q have no moral standing. 7. Those nonhuman animals that have some of the components of Q, such as self-awareness, advanced intelligence, sentience, etc., have a degree of moral standing, but in many cases it might be so limited that it only constitutes a minor ethical consideration. This argument goes a step beyond merely stipulating any given humanistic criterion of moral standing. Rather, it offers a justificatory argument based in a consideration of the good, and the pursuit of what is best (all other things being equal). All of this goes to show, supposedly, that Q is the best criterion of moral standing. This makes Q seem necessary – or at least uniquely attractive – as a moral theoretical consideration. Indeed, this rationale is not unique to consequentialists, who are well known for their own pursuit of the optimal. Consequentialists do indeed pursue what is “best,” all other things being equal (including the condition that they have an idea, in the given context, as to what really is best). However, a nonconsequentialist may also pursue what is better, or best, all other things being equal. That is, so long as rights are not violated, or persons are not treated as mere means, what is good may well be favored. Indeed, so long as various duties are met, it may be irrational not to prefer what is of greater worth. As Kant himself wrote: “What we call good must be, in the judgment of every reasonable man, an object of the faculty of desire, and the evil must be, in everyone’s eyes, an object of aversion.”27 However, individual rights or their equivalent do not interfere with any argument for a criterion of moral standing, since moral standing is, explicitly, a logically prior consideration to ascribing rights at all. We have seen 27 Immanuel Kant, Critique of Practical Reason and Other Writings in Moral Philosophy, trans. Lewis White Beck (Chicago: University of Chicago Press, 1949), 169. TAKING HUMANISM SERIOUSLY: “OBLIGATORY” ANTHROPOCENTRISM 191 that Kant’s traditional criterion of rationality, which supposedly exists as an end in itself, seems to be merely stipulative. Therefore, deontologists should welcome a rationale for moral standing based in the good, or if they do not, at least they cannot rightly beg the question against such an argument. Whether beings with Q-based moral standing have rights (of the kind that restrict the pursuit of maximal utility), or whether utility is to be maximized for all Q-beings, in a way that favors those with the most Q, is a question that goes well beyond arguments concerning the ascription of moral standing in general. What particular form moral standing must take necessarily involves deciding between rival normative conceptions.